

# C14415 #

## STOL® 81 - CuSn0.15

Alloy Designation	STOL® 81
EN	
DIN CEN/TS 13388	CW117C
UNS	C14415 #

# geringer Unterschied in der chemischen Zusammensetzung

### Chemical Composition (Balance)

Weight percentage

Cu	Rest	%
Sn	0.1	%

### Characteristics

**CuSn0,15** is a low Tin (Sn) special alloy that combines low cost with highest conductivity. The total cost for finish products are often equal to brass due to excellent conditions for stamping scrap.

Typical applications are male connectors and fuse boxes.

### Main Applications

**Automotive:** Switches and Relays, Contacts, Connectors, Terminals.

**Elektrotechnik:** Switches and Relays, Contacts, Connectors, Terminals, Components for the electrical industry, Stamped parts, Semiconductor Components.

### Mechanical Properties (EN 1652)

Temper	Tensile Strength	Yield Strength Minimum	Elongation Minimum	Hardness	Bending 90°	
	Rm	Rp0.2	A50mm	HV *	gw rel. Bending Radius R/T	bw
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
R250	250 .. 320	200	9	60 .. 90	0	0
R300	300 .. 370	250	4	85 .. 110	0	0
R360	360 .. 430	300	3	105 .. 130	0	0
R420	420 .. 490	350	2	120 .. 140	1	1

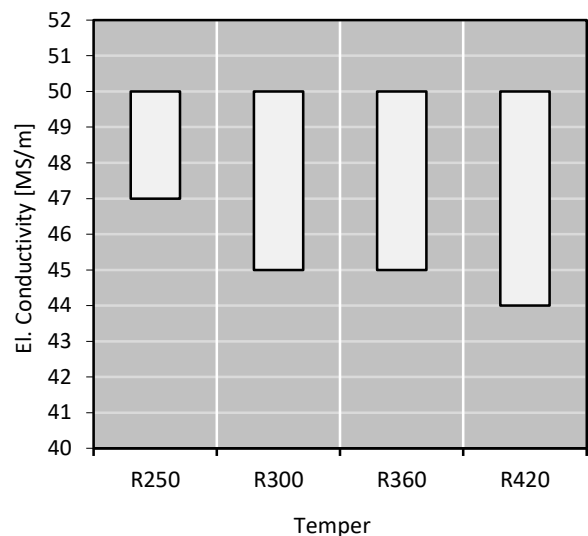
\* only for information

### Physical Properties

Typical values in annealed temper at 20 °C

Density		8.93	g/cm <sup>3</sup>
Thermal expansion coefficient	20 .. 300 °C	18	10 <sup>-6</sup> /K
Specific heat capacity		0.385	J/(g·K)
Thermal conductivity		340	W/(m·K)
Electrical conductivity	MS/m	47	MS/m
Electrical conductivity	IACS	81	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	3.3	10 <sup>-3</sup> /K
Modulus of elasticity	GPa	120	GPa

### Electrical Conductivity



#### Fabrication Properties \*

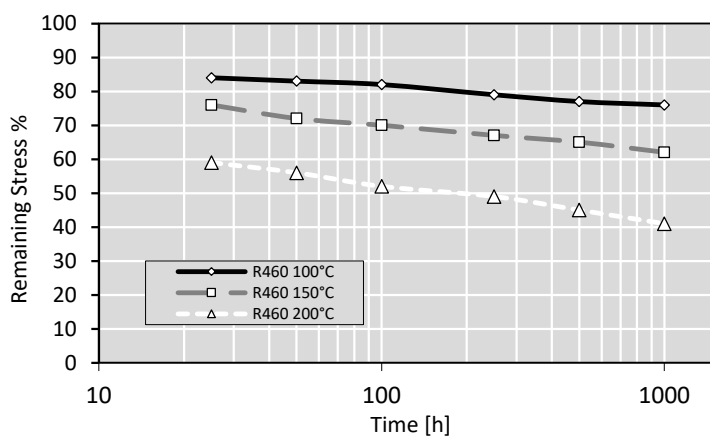
Cold Forming Properties	Excellent
Machinability (Rating 20)	Fair
Electroplating Properties	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Fair
Gas Shielded Arc Welding	Excellent
Laser Welding	Good

\* For more details call our technical service

#### Corrosion Resistance \*

Practically resistant against stress corrosion cracking

#### Relaxation Properties



Relaxation values give an indication about stress relieve of strip under tension for a certain time and temperature. Typical test sample thickness is 0.3 – 0.6 mm.

Initial Stress  
80% von  $R_{p0.2}$   
Parallel Rolling Direction

#### Bend Fatigue (at room temperature)

The fatigue strength gives an indication about the resistance to variations in applied tension. It is measured under symmetrical alternating load. The maximum bending load for  $10^7$  load cycles without crack is measured. Dependent on the temper class it is approximately 1/3 of the tensile strength  $R_m$ .

#### Available delivery forms \*

Strips in coils

Traverse-wound coils with drum weights up to 1.5 t

TECSTRIP®\_multicoil up to 2.5 t

Hot-Dip-Tinned strips in thickness range 0.10 up to 1.20 mm

\* For more details call our sales service

Due to continued improvements within our production process, the details stated in our brochure can not be guaranteed. We reserve the right to update or amend our products, without prior notification. We suggest that you obtain confirmation of our product details / specifications prior to committing to specific alloys.